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EXAMINER

NGUYEN, CHAU N

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 16

Application Number: 09/915,528
Filing Date: July 27, 2001
Appellant(s): GROGL ET AL.

Raja Saliba
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed Dec. 23rd 2003.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellant's brief includes a statement that claims 1-9 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

3,852,518	Wargotz et al.	12-1974
6,403,890	McGregor et al.	6-2002
5,426,264	Livingston et al.	6-1995

(10) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor

and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1-3, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wargotz et al. (3,852,518) in view of McGregor et al. (6,403,890).

Wargotz et al. discloses a cable with at least one transmission element, which is surrounded by a sheath of insulation material, wherein the sheath consists of only an inner layer and an outer layer (Fig. 1), which are made of materials being firmly bonded together when the outer layer is extruded around the inner layer (col. 3, lines 8-18) (re claim 1). Wargotz et al. also discloses the inner and outer layers being made of the same base material (re claim 8), and there is no separate adhesive layer between the inner and outer layers (re claim 9).

Wargotz et al. does not specifically disclose the values for tensile strength and elongation at break of the inner layer are significantly lower than those of the outer layer (re claims 1 and 9).

McGregor et al. discloses a cable comprising a sheath consisting of an inner layer and an outer layer, wherein additives are mixed into the inner layer (col. 7,

lines 37-38) to resist insulation degradation. It would have been obvious to one skilled in the art to mix additives as taught by McGregor et al. in the inner layer of Wargotz et al. to resist insulation degradation. Noted that since the inner layer includes additives, the values for tensile strength and elongation at break of the inner layer are significantly lower than those of the outer layer (re claims 1, 8 and 9).

Re claims 2 and 3, Wargotz et al. discloses that the thickness of the outer layer can be the same, less or greater than that of the inner layer. Therefore, it would have been obvious that depending on the specific use of the resulting cable, one skilled in the art would choose a suitable thickness ratio of the inner and outer layers, including 60:40 and 40:60.

3. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wargotz et al. in view of McGregor et al. as applied to claim 1 above, and further in view of Livingston et al.

The combination of Wargotz et al. and McGregor et al. discloses the invention substantially as claimed except for the specific values recited in claims 4-7. Livingston et al. discloses a cable comprising a sheath which comprises an inner layer (28) and an outer layer (30), wherein the values for tensile strength and elongation at break of the inner layer (28) are significantly lower than those of the

outer layer (30) (see the C&M document attached herewith, etc. the inner layer being polyethylene and the outer layer being PVDF).

Livingston et al. also discloses the tensile strength of the inner layer being approximately half of that of the outer layer and being about 20 N/mm² (re claims 4&5), the elongation of the inner layer being no more than approximately one third of that of the outer layer and being about 150% (re claims 6&7). It would have been obvious to one skilled in the art to apply the teaching of Livingston et al. in the cable sheath of Wargotz et al. such that the cable is stable at moderately high temperatures.

(11) *Response to Argument*

Appellant argues that the Office Action has not established a *prima facie* case of obviousness because the three basic criteria to establish a *prima facie* case have not been presented in the Office Action. This argument is not found persuasive because such criteria are being presented in the Office Action. Specifically, the combination of Wargotz et al. and McGregor et al. teach all the claims limitations (third condition), and it is suggested by McGregor et al. that including additives in the inner layer would provide resistance to degradation of

the insulation due to high voltage passing through the conductor (first and second conditions). Accordingly, a *prima facie* case of obviousness has been established.

Appellant further argues that the resulting combination would not have taught a cable in which the values for tensile strength and elongation at break of the inner layer are significantly lower than those of the outer layer. This argument is not found persuasive because the resulting combination does teach a cable in which the values for tensile strength and elongation at break of the inner layer are significantly lower than those of the outer layer because the combination discloses that both the inner layer and the outer layer are made of the same base material, but the inner layer includes additives mixed into the base material (see abstract of Wargotz et al., McGregor et al., col. 7, lines 28-38 and claim 8 of the present invention). To further support the position that the values for tensile strength and elongation at break of the inner layer being significantly lower than those of the outer layer are taught in the combination of Wargotz et al. and McGregor et al., it is taught by McGregor et al. that additives are added into the base material in an amount of 5-50% which covers the amount disclosed by the present invention, 29% or 30%, see page 5 of the disclosure.

Appellant also argues that Wargotz et al. and McGregor et al. are both completely silent on the relative tensile strength and elongation at break of the

inner and outer layers and both make no hint in the direction of the invention. Specifically, McGregor et al. discloses that adding the additives into the base material is to resist the insulation degradation, but there is no disclosure regarding the relative tensile strength and elongation at break of the inner and outer layers. The fact that appellant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

In response to appellant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the suggestion to do so is found in the references themselves, see McGregor et al., col. 7, lines 34-36.

Appellant then argues that Wargotz et al. is directed to an underground power cable, while McGregor et al. is directed to magnet wire insulation that can

withstand voltage from inverter driven motors. In response to this argument, it is found that both Wargotz et al. and McGregor et al. are directed to electrical cables, specifically power cables. Therefore, it is appropriate to use the teaching of McGregor et al. to modify the cable of Wargotz et al. Appellant further states that McGregor et al. teaches additives being added either to the first layer or to the second layer or to both, and there is no teaching that the additives must be added to only the inner layer. This argument is not found persuasive because McGregor et al., col. 7, lines 28-38, does disclose the additives can be added into the inner layer.

Regarding the Livingston et al. reference, appellant argues that the teachings of Livingston et al. and Wargotz et al. do not disclose the selection of insulating material based on the tensile strength of the material, and there is no motivation to combine the teaching above to produce the invention in claim 4. In response to this argument, it is taught by Livingston et al. that PVDF and cross-linked polyethylene are **preferred** materials to be used for the outer and inner layers respectively (col. 2, lines 47-51) such that the cable is stable at moderately high temperature. Moreover, it is knownⁿ_A in the art that PVDF has higher tensile strength than polyethylene, see the C&M document. Accordingly, Livingston et al. does give a reason to select the insulating material and a suggestion to combine with Wargotz et al., such as stabilizing the cable at moderately high temperature.

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In response to appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

For the above reasons, it is believed that the rejections should be sustained.




Respectfully submitted,

Chau N Nguyen
Primary Examiner
Art Unit 2831

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February 24, 2004

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